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Health Information Technology Council Annual Report

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Executive Office of Health and Human Services



HIT Council Report to the Legislature

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Section 1 Health Information Exchange (HIE) Activities

1.1 History and Overview

In 2011 the Federal government, through the Center for Medicare and Medicaid Services (CMS) and the Office of the National Coordinator for Health Information Technology (ONC), embarked on a program to encourage states to establish Health Information Exchange (HIE) systems. These HIE systems would enable hospitals, doctors, nurses, pharmacists and other health care providers, as well as health plans and other health care entities, to securely communicate clinical patient information electronically, regardless of affiliation or differences in technology. Private efforts at health information exchanges via regional exchanges, Electronic Health Record (EHR) vendors or Health Information Service Providers (HISPs), can be successful in their intended purpose of exchanging health information among their existing provider/customer base but they do not address the need for exchange of health information across all providers, regardless of affiliation or technology. The Commonwealth's Executive Office of Health and Human Services (EOHHS) has led efforts to implement a state-wide HIE and is working in concert with regional health information organizations and HISPs to create the infrastructure for secure exchange of patient clinical information among healthcare providers. The benefits of ubiquitous state wide exchange of health information that will accommodate all patients in the Commonwealth include:

- Improved care coordination and efficiency
- Fewer medical errors and improved patient safety
- Reduction in duplicative tests
- Reduction in health care costs
- Improved public health reporting and analytics
- Provides the foundation for Accountable Care Organizations and other alternative payment based healthcare models

The Massachusetts Health Information Highway (Mass HIway, or HIway) was the first statewide health information exchange in the nation funded by the Center for Medicare and Medicaid Services (CMS) and provides the technical infrastructure, support services and oversight to allow for this secure exchange of electronic health information.

The Health Information Technology Council (HIT Council), with the Secretary of Health and Human Services as its designated chair, provides oversight and direction to a team, led by EOHHS, that is developing and deploying the technology, associated business processes, education and outreach initiatives to ensure widespread adoption and continue to drive growth of Mass HIway usage. From a financial perspective, the development and ongoing operation of the Mass HIway is funded predominantly via federal funds along with smaller contributions from the Commonwealth and from private and commercial organizations. A funding request for additional funds for federal fiscal year 2015 is pending. That request outlines total spending of \$21.7M and requests a federal share of \$17.2M, based on existing programs in place at CMS.

A key guiding principle behind the Mass HIway is the decision to not store clinical data. All clinical data exchanged over the Mass HIway is encrypted while in transit and is not viewable or readable by anyone

other than the message sender and receiver. While some states have made the decision to implement their Health Information Exchanges as clinical repositories, Massachusetts has designed the Mass Hlway to serve only as a mechanism for the secure transport of data. EOHHS is considering the creation of a Mass Health Quality Data Repository interface on the Mass Hlway that would be limited to housing de-identified health data for quality driven analytics and reporting purposes. This is discussed under the key objectives for 2015 section.

Currently, there are two major approaches to the exchange of health information via the Mass Hlway. These are as follows:

- Directed “push” exchange of clinical data between HIE Participants for Care Coordination, Case Management, and Quality Improvement. This approach addresses the exchange of patient health information from one provider to another provider or other healthcare entity. Existing use cases include the exchange of a referral from a primary care provider to a specialists as well the exchange of a clinical summary record including medication and problem lists, visit notes, treatment plans and other data critical to care coordination and case management. Discharge summaries for patients being released from hospitals are another prevalent use case. Patient data is also being exchanged for quality improvement purposes.

This “push method of exchange of health information also facilitates submission to eight different public health registries and related applications via nodes or Interfaces on the Hlway. This automated reporting allows for more timely and efficient submission of immunization data, syndromic surveillance data, childhood lead poisoning data and other elements critical to the state’s public health.

- Query & Retrieve transactions, or “pull” transactions, is another form of exchange where a clinician may query the Mass Hlway to determine which health providers or organizations have electronic health records for a particular patient. Once a record is located, the clinician may request that the record be sent over the Mass Hlway from the provider or institution holding the record to the clinician requesting the record.

1.2 Mass Hlway Accomplishments 2014

The Mass Hlway has experienced significant growth over the past year in both the number of participating organizations as well as transaction volume generated by existing participants. Below is a list of the Mass Hlway’s more notable accomplishments over the last year.

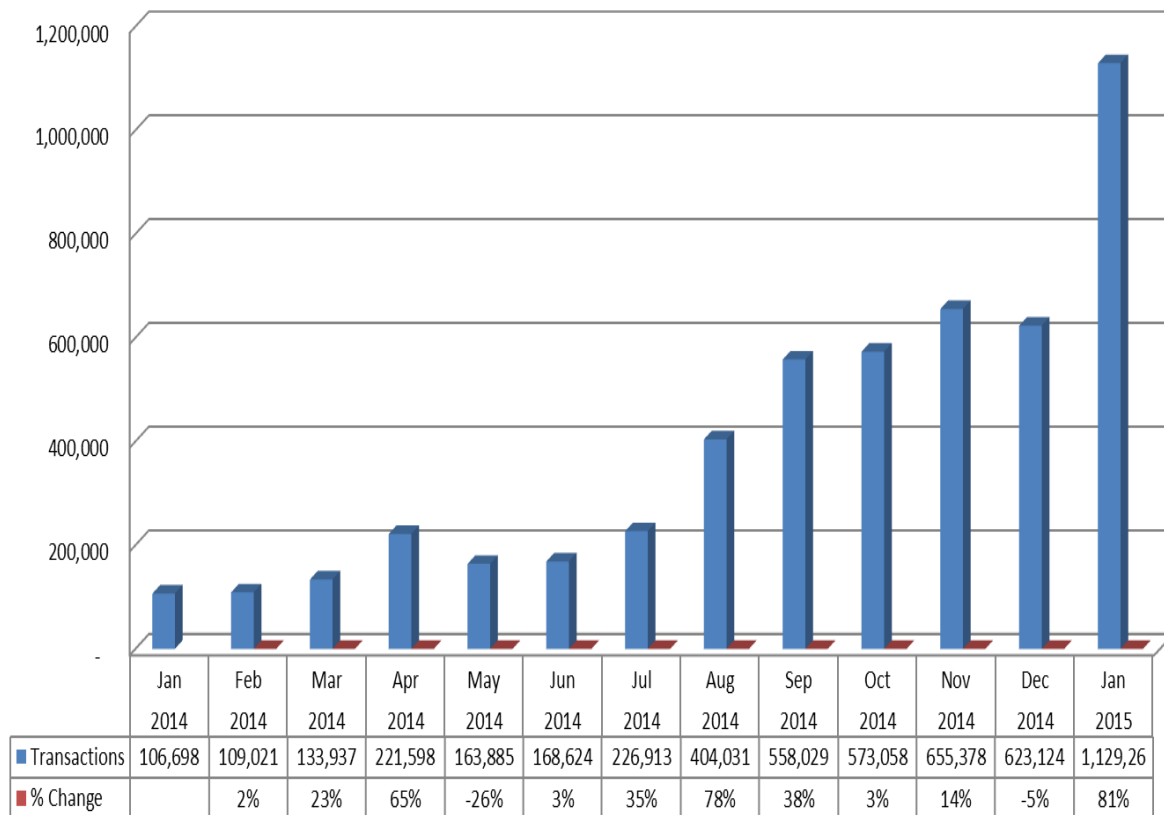
Transaction Volume and Number of Organizations Connected:

- The Mass Hlway has grown from 63 participating organizations in January 2014 to 324 participating organizations as of January 2015.
- As of January 2014, the number of transactions that passed through the Hlway was 1,884,260.
- As of January 2015, 6,954,400 transactions passed through the Hlway, more than triple the transactions handled during the same period last year.

- January 2015 was the first month since the HIway's inception where transaction volume exceeded one million transactions in a single month.

The graph below illustrates the significant growth in transaction volume the HIway has seen over the last year.

Figure 1.1 – Total Number of HIway Transactions per Month



Public Health Registry Interfaces

Another significant achievement during 2014 was the addition of 5 interfaces or nodes on the Mass HIway. A node on the HIway is a custom interface from an external system to the HIway that allows for the automated reporting of large quantities of data. Mass HIway enables the electronic submission of data to seven public health registries and to the Department of Labor and Standards and Workforce to improve public health research, intervention, and program development. The new Mass HIway interfaces developed in 2014 include:

- Intake Enrollment and Assessment Transfer Service (IEATS)/Opioid Treatment Program (OTP)
- The Massachusetts Cancer Registry
- Phase 1 of the eReferral program
- Childhood Lead Poisoning Prevention Program (CLPPP)
- Adult Lead Poisoning Program

Development of the Children's Behavioral Health Initiative (CBHI) interface is complete with the remaining integration work with the HIway to be completed in 2015.

Existing nodes created prior to 2014 include:

- Massachusetts Immunization Information System (MIIS)
- Electronic Lab Reporting (ELR)
- Syndromic Surveillance

Enabling these organizations to report electronically to these registries via the Mass HIway promotes surveillance for infectious diseases, assures fast, secure, uniform, and reliable methods of data communication and provides actionable, real-time data for program reporting, quality improvement, and evaluation. These public health interfaces also simplify providers' compliance with DPH and other reporting requirements and support providers' ability to achieve Meaningful Use of electronic health records.

Health Information Service Providers

The Mass HIway has also made significant progress in the connection of Health Information Service Providers (HISPs). A HISP is defined as an organization that manages security and transport for health information exchange among health care entities or individuals using the DIRECT standard for transport. These private HISPs have their own existing customer base consisting of anywhere from hundreds to thousands of providers. The Mass HIway worked diligently over the last year to create an interface to enable these private HISPs and their associated provider customer base to connect to the HIway. To date, eight private HISP organizations are live with the Mass HIway with an additional two HISPs scheduled for connection with the HIway in the first half of 2015. The graph below lists all HISPs connected in 2014.

Figure 1.2 – Timeline of HISP Connections to the Mass HIway

#	HISP Vendor	Kickoff	Onboarding	Testing	HIway Prod Readiness	Live Date
1	SES (eLINC)					✓ 2014-May
2	ADS/DataMotion					✓ 2014-Jun
3	Alere					✓ 2014-Jul
4	Inpriva					✓ 2014-Aug
5	SureScripts					✓ 2014-Oct
6	eClinicalWorks					✓ 2014-Oct

7	Mckesson(RelayHealth)					✓ 2014-Dec
8	AllScripts(MedAllies)					✓ 2014-Jan
9	NHHIO					2015-Mar

Consent

MGL Chapter 118I requires a mechanism for patients to opt in to the HIway and opt out at any time. Based on this opt in mandate, EOHHS requires all Mass HIway Participants (providers, provider organizations and other healthcare entities) to obtain patient permission to share patient information over the HIway. Implementation of this consent process was very challenging for many Participants so, last spring, EOHHS, with guidance from the HIT Council and its Advisory Groups, established a consent policy and created template consent documents for use by Participants. Although the policy and templates have provided greater clarity, provider organizations continue to cite the consent requirement as a significant barrier to use of the Mass HIway. It is important to note that this opt in consent requirement creates an additional consent burden on a provider who is using the HIway for treatment, payment or operations. This same requirement does not apply to providers when they send patient health information via fax, mail, courier, or through a non-Mass HIway Health Information Services Provider (HISP). EOHHS and the HIT Council will continue to work with provider organizations regarding consent, with an eye towards minimizing the barrier to HIway adoption.

Query & Retrieve

The launch of the Mass HIway's Query & Retrieve functionality in January 2014 was another exciting milestone for the state HIE. Query & Retrieve expands upon the push model of Direct Messaging and allows providers and organizations to locate and request clinical information based on a patient's consent. To populate the Relationship Listing Service (RLS) a provider organization submits patient demographic data (limited to Patient Identifier (e.g., Organization specific Medical Record Number), Patient Name, Patient Gender, Patient Date of Birth, Patient Address, Patient Email, Patient Phone Number, Organization sending the information, Date message received, and Consent attestation). This information is then made available to other providers that see that patient as well as Emergency Providers so that patient information may be quickly located and retrieved as part of patient diagnoses and treatment. The RLS is expected to be an important service for prevention of medical errors, reduction of duplicate testing, and improvement of care transitions.

Currently, there are 4 query and retrieve pilots ongoing with Beth Israel Deaconess Medical Center, Atrius Health, Tufts Medical Center, and Holyoke Medical Center. The pilots are wrapping up their first phase of populating the RLS and Mass HIway is planning to offer the services more broadly this year. As a result of the four pilots, there are 2,111 unique patients currently in the record locator services (RLS.) The Mass HIway team expects this number to grow significantly over the coming year.

1.2.1 Technology Development Accomplishments 2014

During calendar year 2014 (CY2014), the Mass HIway team undertook numerous development projects including improvements to HIway infrastructure, deploying additional public health interfaces, implementing the collection of Admission Discharge and Transfers (ADT's) to feed the relationship listing services of Query & Retrieve, and expanding connections with Health Information Service Providers (HISPs).

The Mass HIway website, www.MassHIway.net, transitioned to the new Oracle Web Center platform providing a friendlier user experience and more timely website updates. The Mass HIway Webmail platform was upgraded to allow for rich text editing, increased attachment sizes and improved functionality around message management.

A Provider Directory Extract process was implemented, allowing the Mass HIway to periodically distribute a current directory of provider addresses to Mass HIway Participants and HISPs for use within their systems, as permitted by agreement and our policies. A Provider Directory bulk upload function was also implemented enabling the Mass HIway to load large amounts of provider data into the Mass HIway Provider Directory, greatly increasing efficiency and accuracy for provider organizations and increasing the scalability of the HIway onboarding process as a whole.

From a backend technical perspective, the Mass HIway developed and implemented an alternate connectivity method for providers. The "XPL Gateway" was developed to secure the clinical data via a secure transport tunnel, rather than requiring the EHR system to implement message encryption/decryption. This approach substantially reduces the work effort required by the EHR vendors and provider organizations to connect to the HIway, while ensuring the same high level of patient information protection. Testing of this connection method had been conducted with a number of Meditech users throughout 2014 and is now being deployed to other providers and EHRs.

As mentioned above, Mass HIway interfaces/nodes to various Public Health Registries continued to expand at a significant pace throughout 2014.

A second release related to the Relationship Listing Service also took place during 2014. This release enabled authenticated providers with Query & Retrieve functionality to access the location of patient records via a web service call. Other critical elements of the release included consent reset for patients who come of age as well as notification and reporting for instances when the emergency "Break the Privacy Seal" functionality is used.

As mentioned in the accomplishments section above, the HIway accelerated its work with several Health Information Service Providers (HISPs) deploying an interface enabling seven HISPs to connect to the Mass HIway in 2014. The development team conducted extensive testing with these organizations, working through all technical issues to a successful conclusion.

Below is a timeline illustrating the major technology initiatives completed in 2014.

Figure 1.3: Technology Development Timeline - 2014

Activity	Completed in 2014
Go Live – Massachusetts Cancer Registry Node on the Mass Hlway	April 2014
Webmail Upgrade Go Live	April 2014
XPL Gateway Implementation	April 2014
HISP to HISP Solution Go Live	April 2014
Go-live – Intake Enrollment and Assessment Transfer Service (IEATS)/Opioid Treatment Program (OTP) Node on Mass Hlway	May 2014
Go Live – eReferral Phase 1 Node on Mass Hlway	May 2014
Go Live - Relationship Listing Services Release 2 (Web service access, eMPI tuning, Provider Notifications)	September 2014
Go Live - Healthcare Provider Portal Release (Provider Directory Bulk Upload and Certificate Management)	October 2014
Go Live – New Mass Hlway website	October 2014
Go Live - Childhood Lead Paint Poisoning Prevention Program (CLPP) Node on Mass Hlway	November 2014
Go Live – Adult Lead Node for Department of Labor Standards (DLS)	December 2014

1.2.2 Operations and Maintenance Accomplishments 2014

The Mass Hlway Operations team provides the administrative and technical resources and services to onboard new customers and service existing customers. During 2014, the key activities of the Operations team included the following:

- Supported the administrative and technical onboarding for an additional 261 new participant organizations, increasing the organizations with live connections from 63 to 324.
- Provided onboarding and support services for seven HISP organizations.
- Provided technical onboarding services, including a number of support activities, such as the installation and testing of certificates, troubleshooting Local Area Network Devices (LAND) appliances and XDR/XPL connections, provisioning webmail addresses, usernames and passwords, and verifying identities of organizations.
- Continued coordination with application support teams at the Massachusetts Department of Public Health (DPH) to onboard Participants and conduct joint testing for submission of data for all 8 DPH interfaces to the Hlway.
- Worked with the legal team to finalize and release more streamlined participant agreements and policy and procedures documentation leading to easier onboarding for providers.
- Continued to work through the various legal agreements and contracts with individual HISPs.
- Met regularly with electronic health records software vendors to plan, design, test, and implement changes to enable DIRECT connections to the Mass Hlway, and conducted coordinated testing with their customers.

1.2.3 Promotion and Outreach Accomplishments 2014

Beginning in SFY '15 EOHHS formalized its customer outreach and account management functions and contracted with the Massachusetts eHealth Collaborative (MAeHC) to help the Mass Hlway increase adoption and active use. The team began the year with an aggressive engagement campaign to meet the following goals:

- Contact all current Mass Hlway customers
- Assign an Account Manager to every customer
- Determine each customer's state of Mass Hlway connectivity and use of Hlway services
- Identify remaining issues and barriers to active use of the Mass Hlway

The Account Management team found that the primary blocker standing in the way of customers' active use of the Mass Hlway is the customers' EHR vendors. The team found that EHR vendor capabilities for Direct exchange are immature, that multiple interpretations of the Direct standards by vendors are resulting in inconsistent connectivity, and that user workflows and associated application designs are not well developed. In addition, many vendors spent the majority of 2014 determining their HISP approach including whether or not to be a HISP, HISP to HISP contracting and connectivity, pricing and business models, provider addressing, and approach to DirectTrust. These EHR issues and HISP decisions greatly delayed rollout and use of Mass Hlway services in the beginning of the year.

The Account Management team found that the second most common blocker had to do with Mass Hlway customers themselves. Though many customers had capabilities and connections in place to send information, their high priority information trading partners were not yet ready to engage in this exchange. This lack of a connected trading partner on the Hlway prevented the more robust, bidirectional exchange many organizations had envisioned. The lack of critical connected trading partners also prevented organizations from working through the workflow and use case tasks that are essential to Hlway adoption.

Based on the learning from the customer engagement campaign, the Account Management team set strategy for the remainder of the year. Tenets of the strategy include the following:

- Shore up capability of leading hubs (Mass Hlway customers that exchange with many other providers ("HUBS")) to send and receive clinical information - then broker the discussions between leading hubs and their high priority information trading partners to work through all connectivity issues until information is flowing.
- Prioritize customers that use EHR vendors that are most willing and capable of connecting with other vendors.
- Identify the HISPs that represent large numbers of MA healthcare providers – then work with these HISPs to interconnect with Mass Hlway.

The Account Management team simultaneously worked with the other Mass Hlway teams to set up and refine business processes for customer engagement, contracting, on-boarding, go live, post go live, support, and optimization.

Though many blockers remain, the Mass Hlway outreach efforts are helping move the bar forward with customer recruitment, onboarding, and active use of services. The following “one year look back” illustrates how far the Mass Hlway has come in a very short period of time.

	# Providers			# Transactions	
HITC Meeting	Signed On*	Connected	Actively Using	Month	Total (to date)
3/10/14	132	104	N/A	109,021	2,096,557
3/2/15	372	361	68	1,411,896	8,366,296
Change	+240	+257	---	+1,302,875	+6,269,739
% Change	182%	247%	---	1195%	299%

Below is a summary of other key marketing and outreach activity in support of customer recruitment and onboarding:

- Communications and Resources:
 - Launched new Mass Hlway website with content management system to ensure timely updates
 - Launched new Mass Hlway Newsletter sent monthly to about 600 recipients from Participant organizations
 - Partnered with the Massachusetts eHealth Institute to host webinars covering:
 - Enrollment and Onboarding
 - Provider Directory
 - Consent
 - Implementing and Using Webmail
 - Average attendance: 75
 - Finalized consent resources for patients and launched call in number for patient inquiries
- Process and Documentation:
 - Finalized customer lifecycle process, roles and responsibilities
 - Structured onboarding procedure and initial assessment sheets
 - Developing LAND and XPL Implementation and Maintenance guides

- Streamlined and optimized customer tracking documents to ensure smooth transition from enrollment to connection
 - Developed a vendor tracking sheet
- Query & Retrieve Adoption:
 - Hosted monthly Advisory Group sessions to address common issues and barriers
 - Supported early adopters in consent process and implementation to yield ~2,100 unique patient relationships posted to the Relationship Listing Service in under 4 months.

1.3 Key Activities Planned for 2015

1.3.1 Technology Development Objectives - 2015

There are a number of technology initiatives planned for 2015. These include:

- Children's Behavioral Health Initiative Integration
- Expansion of Cross Entity Viewer functionality
- Implementation of Provider Notification functionality
- Creation of a Quality Data Repository and other Mass Hlway nodes or interfaces

Children's Behavioral Health Initiative (CBHI)

A primary initiative for 2015 is the integration of the Children's Behavioral Health Initiative (CBHI) node on the Hlway. Behavioral health providers are required to submit clinical information to EOHHS for children covered by Medicaid who are being treated for behavioral health issues. The current system in place to receive this information requires double entry of this data into a provider's own local systems as well as into the state system. This project will eliminate this inefficient double data entry by enabling the automatic transfer of data entered into a local system to the state system via the Mass Hlway. The Hlway team expects this effort to be completed in the first half of 2015.

Cross Entity Viewer

Additional development initiatives may include the expansion of the limited cross entity viewer originally included with the initial release of the Query & Retrieve services. The cross entity viewer is a component that allows provider organizations who enter into contractual agreements with one another to view in real time all or a part of a consented patient's record, depending upon the wishes of the contracting organizations. The Mass Hlway team would expand the authentication mechanisms and processes to enable participating organizations to locate records using the Hlway Query & Retrieve service and then directly view the record through an access point provided by the record holding organization, outside the Hlway. This functionality would negate the need for transport of patient data over the Hlway and would be especially useful in emergency settings. The Mass Hlway team believes this feature is of great interest to many providers in the healthcare community.

Provider Notification

The provider community has expressed high interest in a subscription functionality that will enable a provider to be notified when a patient they are monitoring visits another provider or organization. The software package on which the Query & Retrieve service's Relationship Listing Service (RLS) is based includes a notification function. The Mass Hlway team plans to review the package functionality, consider any patient consent implications for the Mass Hlway, and determine the modifications required to implement the function as part of the Query & Retrieve service.

Additional Hlway Interfaces

Several additional Mass Hlway nodes or interfaces are under consideration for development in 2015. The most high profile initiative, dependent on approval of funding by CMS as well as a close working partnership with MassHealth Leadership, is the creation of a Quality Data Repository (QDR) node on the Mass Hlway. Conceptually, the QDR would retain only aggregate, de-identified population level quality data that would assist MassHealth in making decisions around optimal treatment and payment methodologies. The management teams for both the Mass Hlway and MassHealth would work closely together on this initiative to form an integrated plan taking into consideration the following:

- Data Inputs - Data elements to be collected
- Source of data (EHR submission via the HIE; claims, other sources)
- Data Outputs - How the data is to be used and distributed
- A review of the federal and state laws and regulations regarding privacy to ensure that the data collection and use program is in compliance with all applicable laws and regulations

The Mass Hlway team is having exploratory discussions with a number of other entities who are interested in potential nodes or interfaces to the Mass Hlway. These include discussions with the Department of Public Health for a Prescription Monitoring Program (PMP) node as well as a node for the Department of Children and Families (DCF) to receive health information from providers and community health centers caring for children under the custody of DCF.

1.3.2 Operations and Maintenance Objectives - 2015

Stability and Reliability

Stability and reliability have been identified as the Hlway's most critical operations and maintenance objectives for 2015. In order to improve the Hlway's stability and reliability, a number of performance monitoring, system availability and downtime alert and notification capabilities were activated at the end of 2014 and will continue to be refined and improved throughout 2015. These performance monitoring initiatives include:

- Establishing a Technical Operations team solely dedicated to production support and improved communications with Hlway customers
- Simplifying and reducing the time and work effort required of providers to connect to the Hlway
- Increasing monitoring of Hlway infrastructure including:
 - Enhanced LAND monitoring
 - Enhanced HIE core infrastructure monitoring (database, file system, etc.)
 - Middleware maintenance
- Working intensively with Orion Health, the Mass Hlway's infrastructure vendor and partner to:
 - Resolve incidents as quickly as possible
 - Conduct root cause analysis to prevent recurrence of issues
 - Help mature incident management, root cause analysis, monitoring and operational support processes
 - Document and manage performance to SLAs
 - Simplify scheduled maintenance efforts
 - Increase Mass Hlway availability to 99.9% uptime

EHNAC Accreditation

In response to interest from external EHR vendors and HISPs that are critical to the Mass HIway's network of networks approach, EOHHS may also pursue two certifications from EHNAC (The Electronic Health Network Accreditation Commission) in 2015. EHNAC is an independent, federally recognized, standards development organization that promotes interoperability, stakeholder trust, regulatory compliance, quality service, innovation, and open competition within the healthcare industry.

Many HISPs and EHR Vendors have already been certified by EHNAC as either a HISP or an HIE. Some of these organizations are stipulating that the Mass HIway must also demonstrate proof of its tight privacy and security processes and procedures through the EHNAC accreditation process. In some cases, organizations are requiring this accreditation as a requirement of doing business with them.

Initiation of this accreditation process is also dependent on the approval of funding by CMS as requested in the most recent IAPD submitted. The accreditations that the Mass HIway team is seeking are:

- HIEAP: Health Information Exchange Accreditation Program
- DTAAP HISP: Direct Trusted Agent Accreditation Program for Health Information Service Providers.

Maintenance and Enhancements

Another Operations and Maintenance initiative that will continue in 2015 is the Maintenance and Enhancement (M&E) team that tracks and prioritizes all issues and enhancements to the Mass HIway to ensure continuous improvement remains front and center to the mission of the Mass HIway.

1.3.3 Promotion and Outreach Objectives - 2015

In 2015 the Account Management team will continue to execute on the current outreach strategy but will narrow focus dramatically to increase efficacy of outreach and active use activities. Below are specific enrollment and active use activities for the coming year:

Enrollment and Active Use Tasks:

- Work with HUB organizations to recruit and connect their high priority trading partners
- Continue to work closely with HISPs that may connect large numbers of providers to the Mass HIway, especially the segments of the market that the Mass HIway has not been able to reach yet (e.g., small ambulatory providers)
- Host webinars, meetings, group outreach campaign seminars/marketing meetings to increase overall awareness of Mass HIway while directly recruiting new participants
- Engage organizations that have connected with Mass HIway for public health reporting to expand exchange capability to other participants and for other purposes

In 2014 Mass HIway attempted to serve the needs of all prospective participants. The result was diffusion of effort, time lost on participants and vendors that were not ready and overall delay. In 2015 the team will pursue "smart growth" which means recruiting and onboarding effort will be concentrated on a smaller number of participants based upon several factors:

- Demand for Mass HIway services among Participant's IT, clinical and business leaders
- Willingness and capability of EHR vendor to connect with others
- Readiness of high priority trading partners to connect and begin transacting

When conditions are right for successful connectivity, the Mass HIway account management and onboarding teams will shepherd the customer and its trading partners through all steps in rapid succession.

The teams will continue to monitor progress with transparent metrics reported to the HIT Council. Targets for 2015 will be established by EOHHS later in the spring for HIT Council review.

Section 2 HIT Council Overview

2.1 Statutory References

The Health Information Technology Council ("HIT Council") was established by the General Court¹ to coordinate and promote the development of a statewide health information exchange (HIE). Its purpose is set forth in Section 2a of Chapter 118I:²

There shall be a health information technology council within the executive office of health and human services. The council shall coordinate with state agencies, including the commission,³ other governmental entities and private stakeholders to develop a statewide health information exchange. The council shall advise the executive office on design, implementation, operation and use of the statewide health information exchange and related infrastructure.

State law requires the Council to file an annual report with the Joint Committee on Health Care Financing, the Joint Committee on Economic Development and Emerging Technologies, the House and Senate Committees on Ways and Means and the Clerks of the House and Senate. The annual report shall address the activities of the Council, describing in particular progress to date in the development of the HIE, and shall recommend further legislative action.⁴

2.2 Membership and Structure of Health Information Technology Council

The full 21 member HIT Council met monthly throughout 2014. Council meetings were chaired by the then Secretary of Health and Human Services, John Polanowicz, and supported by the Secretariat Chief Information Office, Manu Tandon and Acting Secretariat Chief Information Office, Darrel Harmer upon Mr. Tandon's departure from EOHHS. In 2014 the Secretary invited Jessica Costantino from AARP to sit with the Council as a representative of healthcare consumers. The following chart identifies the HIT Council members as of December 2014, their role and affiliation(s):

¹ General Court's initial creation of the HIT Council was codified at M.G.L. Chapter 40J, Section 6D (b) [Ch. 40J was repealed and the membership of the Council and its advisory groups were revised by Ch. 224 of the Acts of 2012].

² Enacted as Ch. 224, Sec. 134 of the Acts of 2012

³ Health Policy Commission

⁴ Chapter 118I, Sec. 15 (enacted as Chapter 224, Sec.134 of the Acts of 2012)

Figure 1.2: Members of the HIT Council – (as of January 2015)

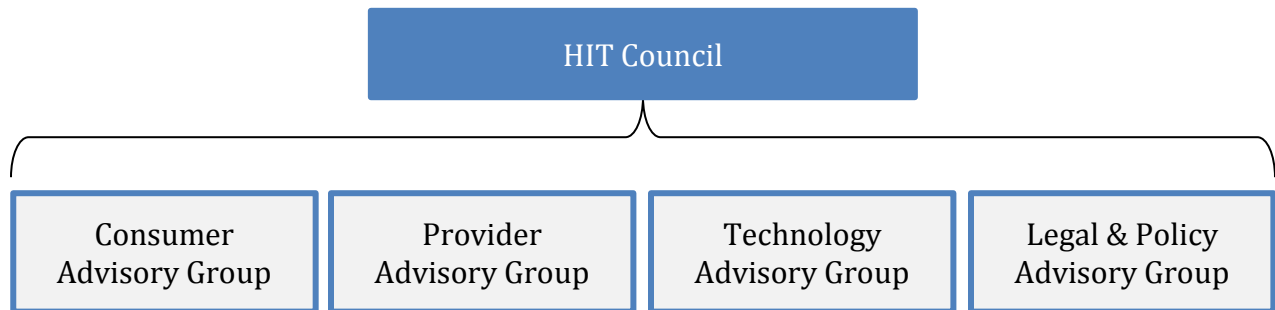
Role	Assigned Individual	Affiliation
Secretary of Health and Human Services or Designee (chair)	Marylou Sudders	Secretary of Executive Office of Health and Human Services
Secretary of Administration and Finance or Designee	Bill Oates	Chief Information Officer, Commonwealth of Massachusetts
Executive Director of the Health Policy Commission or Designee	David Seltz	Executive Director of Health Policy Commission
Executive Director of Center for Health Information Analysis (CHIA)	Aron Boros	Executive Director of Center for Health Information and Analysis
Director of the Massachusetts e-Health Institute	Laurance Stuntz	Director, Mass e-Health Institute
Secretary of Housing and Economic Development or Designee	Vacant	Assistant Secretary for Innovation Policy in Housing and Economic Development
Director of the Office of Medicaid or Designee	Daniel Tsai	Assistant Secretary for MassHealth
Expert in Health Information Technology	Meg Aranow	Senior Research Director, The Advisory Board Company
Expert in Law and Health Policy	Kristin Madison	Professor of Law and Health Sciences, Northeastern School of Law, Bouve college of Health Sciences
Expert in Health Information Privacy and Security	Deborah Adair	Director of Health Information Services/Privacy Officer, Massachusetts General Hospital
From an Academic Medical Center	Dr. John Halamka	Chief Information Officer, Beth Israel Deaconess Medical Center
From a Community Hospital	Normand Deschene	President and Chief Executive Officer, Lowell General Hospital
From a Community Health Center	Jay Breines	Executive Director, Holyoke Health Care Center
From a Long Term Care Facility	Robert Driscoll	Chief Operations Officer, Salter Healthcare
From a Large Physician Group Practice	Dr. Michael Lee	Director of Clinical Informatics, Atrius Health
From a Small Physician Group Practice	Dr. Patricia Hopkins	Rheumatology & Internal Medicine Doctor (Private Practice)
Registered Nurse	Margaret Sipe, RN	Nursing Performance Improvement Innovator, Lahey Clinic
From a Behavioral Health, Substance Abuse Disorder or Mental Health Services Organization	Daniel Mumbauer	President & CEO, Southeast Regional Network, High Point Treatment Center, Southeast Massachusetts Council on Addiction (SEMCOA)
Representative of health insurance carriers	Steven Fox	Vice President, Network Management and Communications, Blue Cross Blue Shield MA
Experience or Expertise in Health Information Technology	Dr. Lawrence Garber	Medical Director of Informatics, Reliant Medical Group

Role	Assigned Individual	Affiliation
Experience or Expertise in Health Information Technology	Dr. Karen Bell	Chair of the Certification Commission for Health Information Technology (CCHIT) EOHED
American Association of Retired Persons (AARP)	Jessica Costantino	Advocacy Director

2.2.1 Advisory Groups

The following diagram illustrates the structure of the advisory groups that was adopted when the new council was formed pursuant to Chapter 224.

Figure 1.2.1: HIT Council & Advisory Group Structure



Section 3 Financing

3.1 Funding Sources

The Mass HIway is funded by a combination of federal money, state money, and private and commercial contributions. The federal contribution stems from a combination of funds allocated by the American Reinvestment and Recovery Act (ARRA) and by funding from Medicaid (MMIS). The state share comes from a combination of the HIT trust fund, state IT capital funds and state appropriated funds.

Since inception of the HIE, EOHHS has submitted four IAPDs to CMS, three of which have been approved as of this writing. The most recent request, submitted November 14, 2014, seeks approval to shift funding from prior fiscal years into Federal Fiscal Year (FFY) 2015. Approval is expected in the first quarter of 2015. The most recent IAPD request seeks approval to spend a total of \$7.2 M in FFY15 for continued development of the HIway, of which approximately 90% is reimbursed by the federal government. It also requests approval for \$14.5M in spending in FFY15 for operations and maintenance, of which approximately 75% is reimbursed by the federal government.

As of the last HIE Semi Annual Fund Review date of 4/22/2014, the total amount in the HIE Fund was \$547,167. Since that time, additional funds of \$74,024 have been received. Additional expenditures since the Semi Annual review took place were \$275,583. These expenditures include the purchase,

installation and maintenance of Local Area Network Devices as well certificates for small, medium and large provider organizations. As of December 8, 2014, the total amount in the fund was \$345,608.

The Hlway team will continuously monitor the budget to ensure the financial stability of the Hlway is maintained.

3.2 Use of Funds

3.2.1 Design, Development, and Implementation (DDI)

There is still significant development work that remains to be completed in the current Federal Fiscal Year. Under the terms of the contract with the vendor, progress payments are made, with a significant amount of the payments due upon completion of the work. As of this date, DDI work remaining includes:

Project Management – This activity involves reviewing the activities of the vendors and internal staff and providing the necessary coordination and direction. This activity also includes managing the budget and preparing necessary reports and spending projections.

Custom Software – Another major element of this program is fully custom software. Certain features, functions, and capabilities deemed to be requirements were not present in the vendor's standard software and thus had to be implemented as custom software additions to the standard products. Some of this custom development or configuration of standard software is continuing as of this date.

Testing – Extensive testing for proper functioning of the software, to ensure that all the software is properly integrated and interoperates properly, is required. In addition the system will be tested for compliance with all the applicable security standards. Further, the system will be tested for compliance with the Commonwealth's standards for accessibility by persons with disabilities.

3.2.2 Operations and Maintenance

This system, as is common with all large complex IT systems, requires considerable ongoing operations and maintenance costs. The key elements include:

Data Center Services – Some of the software was licensed under a SaaS arrangement in which the basic fees included data center services. Other software elements were either purchased outright or licensed under traditional models. In either of these cases it is necessary to obtain data center services to securely house and operate the computers to run the software. To achieve efficiencies, and consistent service all Hlway software is run in the same highly secure state of the art data center.

Software Support - This is the fee charged by the vendors to address defects and make new versions available to the commonwealth.

Marketing and Outreach – The Communications and Outreach team works to develop educational resources spanning from general Mass Hlway knowledge to targeted education in order to assist the community through readiness assessment, onboarding, orientation, and acclimation to the Mass Hlway in operations to aide an organization's journey to successfully transacting. These resources include

FAQs, worksheets, presentations, and recorded webinars. In addition, the team works with organizations and stakeholder groups regionally to cultivate referral circles, assess and address educational needs of participants, and develop strategic partnerships to expand and optimize available communications channels to the provider and patient community. The team also works directly with current participants to develop case studies, best practices, and success stories to help future organizations better prepare for transition to the Mass HIway, and works with key partners to distribute case studies and Mass HIway materials to the health care community at large. The team plans to develop educational materials and launch a patient facing PR campaign to dispel misconceptions about HIE. Lastly, the team maintains the content on the upgraded Mass HIway website, using a content manager to serve up reliable, up to date information in a fast and cost effective manner.

Enrollment and Onboarding – The Operations team works with prospective Participants to review their organization type, software capabilities, connection method, consent processes, and use cases as they prepare to enroll on the Mass HIway. Legal agreements are provided, negotiated, and reviewed. Each organization’s legitimate use of the Mass HIway for treatment, payment, and operations is validated. A Service Manager is assigned to each organization to answer questions and guide them through the enrollment and onboarding process.

Technical Support – The Field Engineers on the Operations team, working at the direction of the Service Managers, coordinate with technical teams at Participant organizations – and, as required, with their software vendors – to establish connections to the Mass HIway and to validate proper and secure messaging. During testing, the Field Engineers help with troubleshooting and technical guidance until the connection is successful. Once a Participant has gone into production, the Field Engineers provide Level 2 technical support to the technical team leads at the Participant sites, and may escalate issues to the product, development, or infrastructure support teams, as necessary.

3.2.3 Recipients of funds

The work identified in section 3.2.1 and 3.2.2 is performed by the following:

System Integrator and Subcontractors – Orion Health responded to the RFR issued for a Health Information Exchange and was selected to be the primary system integrator. Orion Health partnered with several other firms to address all of the requirements of the RFR.

EOHHS Staff and Contractors – EOHHS staff, augmented by several contractors as well as the Massachusetts eHealth Collaborative (MAeHC), are heavily involved in this project, primarily establishing direction, requirements and providing oversight.

Figure 3.2: **Responsibility Matrix**

Activity	EOHHS Staff and Contractors	System Integration Vendor and Partners
Planning and Management	Primary responsibility	Management of specific activities

Activity	EOHHS Staff and Contractors	System Integration Vendor and Partners
Standard Software	Oversight	Delivery
Custom Software	Oversight, requirement definition	Delivery
Data Center Services	Requirement definition, oversight	Overall management, delivery
Testing	Definition and performance of testing	Address issues identified
Operations – Enrollment and Technical Installation	Oversight and delivery of Account Management services	Delivery of enrollment and technical installation services
Operations – Help Desk and Support	Oversight and delivery of Help Desk services	Delivery of technical support

Section 4 Risks and Mitigation Strategy

4.1 Technical

In any project of this magnitude there is always a risk that the delivery schedule will be extended or that the cost will exceed estimates. In many projects there is a risk that the functionality required will be difficult or impossible to achieve. Below is a list of technological risks identified by the Mass HIway team:

Figure 4.1: Technological Risks

Specific Risks	Mitigation Strategy
Vendor(s) fail to meet scheduled commitments	<ul style="list-style-type: none"> Penalties in place in contracts, EOHHS program manager to ensure realistic schedules are agreed to.
Lack of communication amongst vendors and team members resulting in technical incompatibilities	<ul style="list-style-type: none"> Senior program manager in place to coordinate all activities ACIO for HIE at EOHHS to provide executive direction and focus
Technical solution doesn't meet market demands	<ul style="list-style-type: none"> HIT Council, along with Advisory groups, have stakeholders from providers, payers, consumers and government that validate development direction Major functionality where there is no clear standard/market direction will be piloted at first to guide future direction

4.2 User Participation Level

The Mass HIway requires a high rate of adoption and use among healthcare organizations to succeed. Large numbers of participants are needed to gain network effects and to spread costs and maintain a low price point. As is the case with a privately available product or service, the Mass HIway must be consistently needed, valued, and demanded by customers to survive in a competitive market. Demand for the Mass HIway is by no means guaranteed - There are multiple competitors and substitutes for participants to choose from in Massachusetts.

The Mass HIway enjoys high levels of goodwill among customers. Customers will likely continue to support the Mass HIway if it is able to maintain high reliability, valued services, and a low price point. These attributes may be reinforced with the Chapter 118I requirement that all providers connect to the Mass HIway by 2017. State grant programs may also continue to build Mass HIway connectivity into grant requirements like what was done with the Health Policy Commission's (HPC) Community Hospital Acceleration, Revitalization, and Transformation (CHART) Investment Program and the Massachusetts

eHealth Institute's (MeHI's) eQuality Incentive Program (eQIP) grants targeted at behavioral health and long term care providers. Finally, the Mass HIway can continue to maintain a low price point through CMS investment and further dispersion of costs among a growing customer base.

Figure 4.2: **User Participation Risk**

Specific Risks	Mitigation Strategy
EHR vendors fail to offer appropriate integration to Mass HIway to enable customers to connect and transact	<ul style="list-style-type: none"> • Communication with vendors • EHR Vendor Grant program to support interface development • Communication with providers to create "demand pull" for Mass HIway integration
Slower provider adoption than planned	<ul style="list-style-type: none"> • Maintain low price point through CMS subsidy and cost sharing among customers • Grants to incent organizations to join (HPC's CHART program and SIM Grant to Behavioral Health Providers) • Target referral circles to increase trades between partners • Build demand through marketing and communications

Section 5 Legislative Recommendations

There are no legislative recommendations at this time.